

DOCUMENT RESUME

ED 174 954

CS 004 938

AUTHOR Duffy, Gerald G.; Metheny, William
TITLE Measuring Teachers' Beliefs about Reading. Research Series No. 41.
INSTITUTION Michigan State Univ., East Lansing. Inst. for Research on Teaching.
SPONS AGENCY National Inst. of Education (DHEW), Washington, D.C.
PUB DATE Apr 79
CONTRACT 400-76-0073
NOTE 25p.; For related document, see CS 004 936
AVAILABLE FROM The Institute for Research on Teaching, 252 Erickson Hall, Michigan State University, East Lansing, Michigan 48824 (\$1.75)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Attitude Tests; *Beliefs; *Reading; *Teacher Attitudes; *Test Construction; Test Reliability; Test Validity
IDENTIFIERS *Reading Attitudes

ABSTRACT

The proposition inventory described in this paper is an efficient and reliable tool for assessing teacher beliefs about reading, which can be viewed both in terms of standard models (such as basal text, linear skills, natural language, interest-based, and integrated curriculum models) and in terms of dimensions of observed teacher decision making. The proposition inventory described yields data relative to both perspectives, measuring both the theoretical and practical domains of a teacher's belief system in reading. Five aspects of the instrument are discussed: the two-year evolution of the measurement concept, the principles reflected in its final form, the procedures and results from validity and reliability measurement efforts, instrument application, and current results. Suggestions are offered regarding uses of the instrument both in future research and in teacher development. A copy of the proposition inventory is appended. (Author/RL)

* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

Research Series No. 41

MEASURING TEACHERS' BELIEFS
ABOUT READING

Gerald G. Duffy and William Metheny

Published By

The Institute for Research on Teaching
252 Erickson Hall
Michigan State University
East Lansing, Michigan 48824

April 1979

This work is sponsored in part by the Institute for Research on Teaching, College of Education, Michigan State University. The Institute for Research on Teaching is funded primarily by the Teaching Division of the National Institute of Education, United States Department of Health, Education, and Welfare. The opinions expressed in this publication do not necessarily reflect the position, policy, or endorsement of the National Institute of Education. (Contract No. 400-76-0073)

INSTITUTE FOR RESEARCH ON TEACHING

Teachers' thoughts and decisions are the focus of studies currently under way at Michigan State University's Institute for Research on Teaching (IRT). The IRT, founded in April 1976 with a \$3.6 million grant from the National Institute of Education, has major projects investigating teacher decision-making, including studies of reading diagnosis and remediation, classroom management strategies, instruction in the areas of language arts, reading, and mathematics, teacher education, teacher planning, effects of external pressures on teachers' decision, and teachers' perceptions of student affect. Researchers from many different disciplines cooperate in IRT research. In addition, public school teachers work at IRT as half-time collaborators in research, helping to design and plan studies, collect data, and analyze results. The Institute publishes research reports, conference proceedings, occasional papers, and a free quarterly newsletter for practitioners. For more information or to be placed on the IRT mailing list please write to: The IRT Editor, 252 Erickson, MSU, East Lansing, Michigan 48824.

Director: Lee S. Shulman

Associate Director: Judith E. Lanier

Editorial Staff:

Lawrence W. Lezotte, coordinator of Communications/Dissemination
Linda Shalaway, IRT editor
Janet Flegg, assistant editor

Measuring Teachers' Beliefs About Reading¹

Gerald G. Duffy and William Metheny²

The Conceptions of Reading Project is an ongoing study of teachers' beliefs about reading and reading instruction -- whether teachers possess beliefs about reading and, if they do, whether these beliefs influence instructional decision making and pupil outcomes. The study is currently in its second year of observing teachers who hold various beliefs about reading. To select teachers for classroom observation, we had to identify teacher reading beliefs. Consequently, one of the major initial efforts of this study was the development of an instrument designed for this purpose. This paper describes the two-year development of such an instrument -- a reading propositional inventory.

Early Conceptual Development

A search of the literature (Bell et al., 1977) indicates that virtually no research has been done on teacher beliefs about reading. Thus our early efforts in instrument development focused both on the conceptualization of beliefs about reading and a strategy for assessing such beliefs.

Conceptualizing Beliefs About Reading

Since our research staff is composed of a number of reading specialists, our attempts to conceptualize reading beliefs initially

¹Paper presented at the National Reading Conference, St. Petersburg, Florida, 1978.

²Gerald G. Duffy is coordinator of IRT's Conceptions of Reading Project and a professor of elementary and special education. William Metheny is a research intern with that same project.

focused on theoretical models of reading. However, such abstract models were difficult to adapt to field research in classrooms. We discovered we needed more concrete and pragmatic ways of conceptualizing reading beliefs. Subsequently, we conducted two literature searches of standard reading methods texts. From these, five general categories of beliefs about reading were identified: (1) basal textbook, (2) linear skills (such as Wisconsin Design), (3) interest-based (utilizing pupil selection of trade books), (4) natural language (including both psycholinguistics and language experience) and (5) integrated curriculum models. The literature searches established the content validity of the items we incorporated in the instrument.

Early Trials

Our first attempt to assess teacher beliefs was based on Cadenhead's (1976) work. In his work, propositions about reading were written on cards; each subject was asked to examine the cards and to place in one pile the five s/he most agreed with and to place in another pile those five s/he most disagreed with. Our initial 70-item propositional card sort included items from the five conceptual categories described above, others from Cadenhead's original sort, and others describing a "confused/frustrated" category.

This early form of the instrument was subjected to two types of field testing. First, various researchers within the IRT were asked to complete the instrument and to identify items which lacked face or content validity. Second, students in two advanced graduate classes in reading instruction were administered the instrument and asked to identify any problematic items. On the basis of both the recommendations of these subjects and the results of an item analysis of subject responses, the

number of propositions was reduced from 70 to 36. This version of the instrument was then administered in a third pilot to more than 300 graduate students enrolled at Michigan State University (MSU) during summer 1977, and revisions in individual items were made as a result.

Subsequent Development

Following the initial pilot tests described above, the propositional inventory was subjected to a series of statistical analyses and subsequent revisions which ultimately resulted in the final form of the instrument. These are described in three stages.

Changing to a Likert Scale

Initial pilot work with the instrument revealed that the sorting format was clumsy and inefficient, especially with large numbers of subjects. To facilitate both administration and statistical analysis, then, the instrument was converted into a 5-point Likert Scale, following a model like DeFord's (1975). The six conceptual categories (the five reading approaches identified in the literature searches and the "confused-frustrated" category) remained unchanged, as did the individual items.

During fall 1977, the new format of the instrument was administered to 124 graduate students from both MSU and the State University of New York (SUNY) at Albany. The scale items were factor-analyzed and checked for reliability within the conceptual categories. The factor analysis indicated that the sub-scales grouped together into three clusters: (1) a basal text and linear skills cluster, (2) a cluster including interest-based, natural language, and integrated curriculum models, and (3) the "confused-frustrated" category. The reliability coefficients (Cronbach's Alpha) within the sub-scales ranged from .52 to .70. As a result of these data, poor or non-discriminating items were revised or replaced.

In addition, the "confused-frustrated" category was eliminated because it could not be validated in terms of either face or content validity.

Incorporating Results from Field Observations

The next step was to incorporate into the instrument the results from more than 150 observations of 10 different elementary classrooms in three states. Analysis of these observations revealed that, while teachers do make decisions in terms of belief categories such as basal text, there also appeared to be common dimensions across categories upon which teacher decisions were made. For instance, all teachers made decisions about the criteria for judging pupil success but their particular criteria depended upon their belief system. Hence, a teacher with a "basal text" conception of reading tended to judge pupil success by how many levels had been completed, while teachers having an "interest" conception judged success by the affective response to books. The other dimensions identified included: criteria for forming instructional groups, allocation of time to reading activities, allocation of time to ability groups, favored word recognition prompts, comprehension emphasis, and instructional role.

We then incorporated these observed dimensions into the Propositional Inventory by including within each conceptual category a proposition for each of the seven dimensions. In addition, some of the strongest items from the previous edition were retained, regardless of whether they reflected a particular dimension or not. The result was a 50-item, Likert-scale inventory which reflected both the theoretical conceptions reflected in the literature and the practical concerns gleaned from observational data.

This form of the Propositional Inventory was then administered to 116 MSU graduate students enrolled in reading classes. A statistical analysis of the five major reading approaches indicated that the subscale reliability coefficients ranged from .59 to .74 (Cronbach's Alpha). A subsequent factor analysis showed two major categories (or factors) among the five subscales. That is, the basal and linear skills models grouped together as one category while the natural language, integrated whole, and interest based subscales grouped together as another.

The Final Revision

After examining the above data, individual items were rewritten to improve their discrimination among conceptions. In addition, the items regarding teachers' allocation of time to ability groups were eliminated. Apparently, these items discriminated poorly; they suggested a conscious time injustice to particular reading groups, while the differences in time allocation actually noted during observations may have reflected teachers' subconscious decisions.

Following these revisions, the final 45-item form of the Propositional Inventory (see Appendix A) was administered to 178 graduate and undergraduate students enrolled at MSU during summer 1978. The reliability coefficients are as follows: .78 for basal text, .71 for linear skills; .67 for interest-based, .71 for natural language, and .62 for integrated curriculum models. A factor analysis using a varimax rotation was conducted on the five sub-scales (tables 3, 4 -- Appendix B) and on the individual scale items (tables 1, 2 -- Appendix B), with a three-factor rotation showing the clearest solution among the items. As on previous forms of the instrument, the interest, natural language, and integrated

curriculum items loaded on a single factor (r^2 .28). The basal text and linear skills items loaded strongly on two separate factors but shared some variation on both. That is, the two approaches had a factor complexity of two. When a three-factor solution of the five sub-scales was applied, the basal text and linear skills conceptions loaded on a single factor. As before, the interest, natural language, and integrated curriculum conceptions loaded on a common, but separate, factor.

Results of the Statistical Analysis

The development of the Propositional Inventory has resulted in two products. The first, of course, is the instrument itself. Secondly, as the data described above indicate, the Propositional Inventory provides an efficient and reliable means for assessing teachers' generalized reading beliefs.

Further, the statistical data provides two interesting insights regarding teacher belief systems.

First, while the literature indicates that standard reading methods textbooks tend to be categorized in terms of the five belief systems, teachers seem to consistently group themselves into two or more general categories: a "content-centered" conception (which includes both the basal text and the linear skills conceptions) and a more "pupil-centered" conception (which includes interest-based, natural language, and integrated curriculum models).

Second, to the extent that teachers do make distinctions among belief systems, they tend to distinguish more between the basal text and linear skills conceptions than between the more humanistic, "pupil-centered" conceptions.

Potential Future Uses for the Instrument

We have used the Propositional Inventory primarily to identify teachers for classroom observations. The classroom observations have shown that teachers' professed reading beliefs are generally consistent with their classroom practices. While the instrument has proved valuable in our study, other uses are envisioned as well.

The Propositional Inventory described here is an efficient and reliable tool for assessing teacher beliefs about reading. It can provide useful teacher data for the researcher and has potential for use in teacher education at both the preservice and inservice levels.

For instance, the instrument could help researchers determine how teachers view particular reading beliefs and how their decisions really differ in practice, as suggested by the data reported above, which indicated that the distinctions made by various reading theoreticians representing one or another of the five conceptions (basal text, linear skills, interest-based, natural language, and integrated curriculum) are apparently not as clear to practitioners, who tend to cluster statistically into three, rather than five, conceptual categories. Further, the instrument could be used to investigate the relationship between teachers' beliefs and demographic characteristics. For example, researchers might investigate whether better-educated and experienced teachers have broader, more eclectic beliefs than new and inexperienced teachers. These and other characteristics would provide descriptive and predictive knowledge about how teacher characteristics are related to conceptions.. Finally, the instrument has potential for monitoring change in reading beliefs over time. For example, reading methods instructors or inservice coordinators may be able to determine the impact of instruction by using the inventory on a pre- and post-instruction basis.

References

- Belli, G., Blom, G., & Reiser, A. Teachers' concerns and conceptions of reading and the teaching of reading: A literature review. (Occ. Paper No. 1) East Lansing: Institute for Research on Teaching, Michigan State University, 1977.
- Cadenhead, K. What are your beliefs about reading instruction? Journal of Reading, (November 1976), 20, 128-131.
- DeFord, D. DeFord teacher beliefs about reading scale. Reading Program, Indiana University, 1975.

APPENDIX A

PROPOSITIONS ABOUT READING INSTRUCTION

May, 1978

Directions: For each of the following 45 items, please indicate your level of agreement (or disagreement) by circling one of the five letters. In all cases, A means strongly agree, B agree, C neutral or undecided, D disagree and E strongly disagree. IMPORTANT: If you cannot decide upon a response to a particular item after 30 seconds, you should circle C for undecided and go on to the next item.

A	B	C	D	E
strongly agree	agree	neutral or undecided	disagree	strongly disagree

1. I believe that pupil success in reading should be determined primarily by noting progress from easier basal readers to harder basal readers.

A	B	C	D	E
---	---	---	---	---
2. I believe that teachers should directly teach the basic skills of reading to those pupils who need them.

A	B	C	D	E
---	---	---	---	---
3. I believe that the best reading materials are those which help children solve problems of importance to them.

A	B	C	D	E
---	---	---	---	---
4. I believe that an important indicator of reading growth is how often a pupil voluntarily uses reading in his daily life.

A	B	C	D	E
---	---	---	---	---
5. I believe that contextual clues are the most important word recognition aids and should receive more instructional emphasis than sight words or phonics.

A	B	C	D	E
---	---	---	---	---
6. I believe that basal textbook materials are an important part of good instructional programs in reading.

A	B	C	D	E
---	---	---	---	---
7. I believe that primary grade reading should emphasize decoding skills more than comprehension.

A	B	C	D	E
---	---	---	---	---

8. I believe that reading success should be measured primarily by noting how well the pupil uses his reading ability for other classroom activities.
- A B C D E
9. I believe that the teacher's role is to help children learn to love reading by allowing frequent free reading and by conducting individual book conferences.
- A B C D E
10. I believe that reading instruction should focus heavily on comprehension, even at the beginning stages of reading.
- A B C D E
11. I believe that an important criteria for grouping pupils is the level basal textbook each is able to read.
- A B C D E
12. I believe that all children should be systematically taught to use phonics skills.
- A B C D E
13. I believe that the goal of developing comprehension is best achieved by giving pupils realistic reading problems which they see as meaningful in their lives.
- A B C D E
14. I believe that reading instruction should emphasize the higher-level comprehension processes typically found in good children's literature.
- A B C D E
15. I believe that a very important measure of reading success is the degree to which pupils use reading as a communication process.
- A B C D E
16. I believe that considerable instructional time should be devoted to conducting guided reading lessons using selections such as those found in basal textbooks.
- A B C D E
17. I believe that a carefully structured skills guide should be used when teaching reading to insure that each separate skill is mastered.
- A B C D E
18. I believe that reading groups should be formed as the need for them arises and should be disbanded when the need has been met.
- A B C D E

19. I believe that we should spend less time teaching pupils how to read and more time in getting him interested in reading.

A B C D E

20. I believe that reading materials should help children learn to read in a natural manner similar to the way they learned to speak.

A B C D E

21. Children who have similar skill deficiencies should be grouped together for instruction.

A B C D E

22. I believe that reading groups should be based on the pupils' interests.

A B C D E

23. I believe that teachers should spend more instructional reading time on helping children use language as a communication process.

A B C D E

24. I believe that word recognition should emphasize the new vocabulary words associated with each basal text story.

A B C D E

25. I believe that a significant part of a teacher's time should be spent in teaching basic reading skills.

A B C D E

26. I believe that word recognition instruction should not become more important than involving pupils in real-life reading tasks.

A B C D E

27. I believe that comprehension should be taught by asking questions about the basal text story being read.

A B C D E

28. I believe that one effective way to determine pupil reading success is to note how many skills he has learned.

A B C D E

29. I believe that a significant amount of the instructional time in reading should be spent on purposeful, real-life projects and activities which call for the use of reading.

A B C D E

30. I believe that word recognition instruction is not as important in reading as providing children with stimulating, interesting materials to read.

A B C D E

31. I believe that if grouping is used, pupil assignment to groups should reflect more emphasis on meaning cues in reading.

A B C D E

32. I believe that the teacher's role in reading is to assign pupils to appropriate basal materials and direct them as they complete the material.

A B C D E

33. I believe that fewer children would have difficulty learning to read if we stopped teaching reading during self-contained reading periods, and, instead, taught it as a part of all subjects.

A B C D E

34. I believe that children should be allowed to choose the stories and books they want to read during the regular reading period.

A B C D E

35. I believe that the teacher's role is to emphasize the communication aspects of reading more than the skills.

A B C D E

36. I believe that a basal text should be used to teach reading.

A B C D E

37. I believe that reading is a difficult process which must usually be taught in a step-by-step sequence if we are to develop good readers.

A B C D E

38. I believe that the teacher's role is to involve pupils in realistic reading tasks which illustrate the functional utility of reading.

A B C D E

39. I believe that reading is not difficult for most children to learn if they are provided with stimulating and lively materials to read.

A B C D E

40. I believe that reading instruction should focus more on the use of meaning cues and less on skill instruction.

A B C D E

41. I believe that I should spend equal amounts of time with the low, middle, and high basal text groups.

A B C D E

42. I believe that reading is composed of a series of hierarchical skills which must be taught sequentially and then used in combination if one is to read successfully.

A B C D E

43. I believe that reading instruction should be taught so that pupils can use reading successfully in all curricular areas.

A B C D E

44. I believe that reading would not be such a problem today if we made greater efforts to interest children in the reading of good children's literature.

A B C D E

45. I believe that too much emphasis is being placed on skills (especially decoding skills) in reading programs today.

A B C D E

Table 1. Three Factor Matrix of Scale Items

Scale	Items	Factors		
		I	II	III
Basal Text	1	-	-	.33
	6	-	-	.67
	11	-	-	.60
	16	-	.35	.56
	24	-	.36	-
	27	-	.33	.28
	32	-	-	.43
	36	-	-	.65
	41	-	-	-
Linear Skills	2	-	-	-
	7	-	.36	-
	12	-	.38	-
	17	-	.60	-
	21	-	-	.48
	25	-	.45	-
	28	-	.45	-
	37	-	.67	-
	42	-	.63	.29
Interest	4	.28	-	-
	7	.30	-	-
	14	.39	-	-
	19	.40	-	-
	22	.31	-	-
	30	.30	-	-
	34	.40	-	-
	39	.39	-	-
	44	.42	-	-
Natural Language	5	.31	-	-
	10	.42	-	-
	15	.28	-	-
	20	.34	-	-
	23	.50	-	-
	31	.40	-	-
	35	.55	-	-
	40	.42	(-.50)	-
	45	.26	(-.66)	-
Integrated Whole	3	.37	-	-
	8	.30	-	-
	13	.60	-	-
	18	-	-	-
	26	.40	-	-
	29	.60	-	-
	33	.28	-	-
	38	.55	-	-
	43	.29	-	-

Table 2. Four Factor Matrix of Scale Items

Scale	Items	Factors			
		I	II	III	IV
Basal	1	-	-	.39	-
	6	-	-	.68	-
	11	-	-	.64	-
	16	-	-	.61	-
	24	-	.34	-	-
	27	-	.30	.31	-
	32	-	-	.50	-
	36	-	-	.65	-
	41	-	-	-	-
Linear Skills	2	-	-	-	-
	7	-	-	-	-
	12	-	.39	-	-
	17	-	.60	-	-
	21	-	-	.41	-
	25	-	.49	-	-
	28	-	.45	-	-
	37	-	.64	.31	-
	42	-	.57	.40	-
Interest	4	-	-	-	-
	9	.31	-	-	-
	14	.31	-	-	-
	19	.43	-	-	-
	22	.33	-	-	-
	30	.31	-	-	-
	34	.37	-	-	-
	39	.41	-	-	-
	44	.44	-	-	-
Natural Language	5	.34	-	-	-
	10	-	-	-	.71
	15	-	-	-	-
	20	.32	-	-	-
	23	.43	-	-	-
	31	.37	-	-	-
	35	.52	-	-	-
	40	.40	-	-	-
	45	.26	-	-	-
Integrated Whole	3	.43	-	-	-
	8	.37	-	-	-
	13	.64	-	-	-
	18	-	-	-	-
	26	.33	-	-	-
	29	.54	-	-	-
	33	.36	-	-	-
	38	.52	-	-	-
	43	-	-	-	.40

Table 3. Two Factor Matrix of Reading Subscales

<u>Scale</u>	<u>Factor</u>	
	I	II
Basal	-.26	.49
Linear Skills	-.18	.93
Interest	.74	-.26
Integrated Whole	.74	-.14
Natural Language	.67	-.36

Table 4. Three Factor Matrix of Reading Subscales

<u>Scale</u>	<u>Factor</u>		
	I	II	III
Basal	-.22	.71	-.07
Linear Skills	-.15	.61	-.54
Interest	.71	-.27	.16
Integrated Whole	.73	-.25	.09
Natural Language	.67	.14	.55

PUBLICATIONS

of the

Institute for Research on Teaching
Michigan State University

as of

February 1, 1979

To order any of the following publications please send check, money order, or prepaid purchase order -- payable to Michigan State University -- to: IRT Publications, 252 Erickson, MSU, East Lansing, MI 48824. Publication prices include only the cost of production and mailing. Michigan residents should add a 4% state sales tax to all orders. The Institute for Research on Teaching is funded primarily by the National Institute of Education, United States Department of Health, Education, and Welfare.

Research Series

- No. 1 The Inquiry Theory: An information-processing approach to clinical problem-solving research and application. J.F. Vinsonhaler, C.C. Wagner, & A.S. Elstein. 1978. \$2.00
- No. 2 Impact on what? The importance of content covered. A.C. Porter, W.H. Schmidt, R.E. Floden, & E.J. Freeman. 1978. \$1.75
- No. 3 Instructions for using the AJ 832 plotting software package as modified for the CDC 6500 computer. M. Carlyn. 1977. \$1.75
- No. 4 Training manual for the classification of the content of fourth-grade mathematics. W.H. Schmidt, A.C. Porter, R.E. Floden, & E.J. Freeman. 1978. \$2.25
- No. 5 Flexner, accreditation, and evaluation. R.E. Floden. 1978. \$1.75
- No. 6 Analogy and credentialling. R.E. Floden. 1978. \$1.25
- No. 7 Conceptions of reading: The Rep Test. M. Johnston. 1978. \$1.00
- No. 8 Research and development needs for the advancement of teacher education. J.E. Lanier & R.E. Floden. 1978. \$3.00
- No. 9 On the conceptualization of clinical problem solving. C.C. Wagner & J.F. Vinsonhaler. 1978. \$1.50
- * No. 10 Applications of the inquiry theory to reading and learning disabilities. L. Patriarca, J. VanRoekel, & J.F. Vinsonhaler. 1979.
- No. 11 Methods for discovering cues used by judges: Two working papers. C.M. Clark & R.J. Yinger. 1978. \$1.00

- No. 12 Research on teacher thinking. C.M. Clark & R.J. Yinger. 1978. \$2.25
- No. 13 Data analysis strategies for quasi-experimental studies where differential group and individual growth rates are assumed. S. Olejnik. 1978. \$2.75
- No. 14 CLIPIR Pilot Observational Study of Reading Diagnosticians, 1976. A. Lee & A. Weinshank. 1978. \$2.00 (with complete data, \$5.75)
- No. 15 The Inquiry Theoretic approach to clinical problem-solving research and application: Basic Management Information System (BMIS) technical manual Vol. 1. J.F. Vinsonhaler, C.C. Wagner, A.S. Elstein, & L.S. Shulman. 1978. \$4.50
- No. 16 The user's manual for the Basic Management Information System: BMIS technical manual Vol. 2. C.C. Wagner, J.F. Vinsonhaler, A.S. Elstein, & L.S. Shulman. 1978. \$17.00
- No. 17 Teachers' conceptions of reading: The evolution of a research study. R. Barr & G.G. Duffy. 1978. \$1.25
- No. 18 A study of teacher planning: Description and model of preactive decision making. R.J. Yinger. 1978. \$4.25
- No. 19 Fieldwork as basis for theory building in research on teaching. R.J. Yinger. 1978. \$2.25
- No. 20 Choice of a model for research on teacher thinking. C.M. Clark. 1978. \$1.50
- No. 21 Conceptual issues in the content/strategy distinction. D.J. Freeman. 1978. \$2.25
- No. 22 An econometric perspective on classroom reading instruction. B.W. Brown & D.H. Saks. 1978. \$1.75
- No. 23 Identifying cues for use in studies of teacher judgment. C.M. Clark, R.J. Yinger, & S.C. Wildfong. 1978. \$1.75
- No. 24 Teacher autonomy and the control of content taught. A.C. Porter. 1978. \$3.75
- No. 25 Don't they all measure the same thing? Consequences of standardized test selection. R.E. Floden, A.C. Porter, W.H. Schmidt, & D.J. Freeman. 1978. \$1.50
- * No. 26 Critical moments in the teaching of mathematics. J.C. Shroyer. 1978.
- No. 27 Characteristics of the clinical problem-solving model and its relevance to educational research. (Formerly available as an IRT collateral paper.) A.S. Elstein, L.S. Shulman, J.F. Vinsonhaler, C.C. Wagner, & L. Bader. 1978. \$1.25
- * No. 28 The consistency of reading diagnosis. A. Weinshank. 1978.

- * No. 29 The Inquiry Theory research paradigm. C.C. Wagner. 1978.
- * No. 30 Simulating the problem solving of reading clinicians. J.F. Vinsonhaler. 1978.
- * No. 31 Training reading specialists in diagnosis. G. Sherman. 1978.
- No. 32 Classroom management in the elementary grades. J.E. Brophy & J.C. Putnam. 1978. \$3.25
- No. 33 An ethnographic study of a teacher's classroom perspective: Implications for curriculum. V.J. Janesick. 1978. \$2.25
- No. 34 The problem of dead letters: Social perspectives on the teaching of writing. S. Florio. 1978. \$1.50
- No. 35 Measuring content of instruction. W.H. Schmidt. 1978. \$1.50
- * No. 36 The relationship of teacher alienation to school workplace characteristics and career stages of teachers. M.J. Vavrus. 1978. \$2.50
- No. 37 The relationship between diagnosis and remediation in reading: A pilot study. A. Weinshank. 1978. \$1.75
- * No. 38 Teacher judgment of children's reading preferences. T.E. Evans & J.L. Byers. 1979. \$2.00
- * No. 39 The teaching styles at South Bay School. B. Joyce. 1979. \$2.25
- * No. 40 Teachers' thoughts while teaching. B. Joyce. 1979. \$2.25
- * No. 41 Measuring teachers' conceptions about reading. G.G. Duffy & W. Metheny. 1979. \$1.75
- * No. 42 Studies of clinical problem-solving behavior in reading diagnosis. D. Gil, J.F. Vinsonhaler, & C.C. Wagner. 1979. \$2.00
- * No. 43 Study of the value/belief patterns of teachers and administrators. P. Cusick. 1979.
- No. 44 Teacher perceptions of student affect. R.S. Prawat. 1979. \$2.50

Occasional Papers

- No. 1 Teachers' concerns and conceptions of reading and the teaching of reading: A literature review. G. Belli, G. Blom & A. Reiser. 1977. Limited number of free copies.
- No. 2 Teachers and researchers: Toward a proper division of labor. C. Kennedy. 1977. Limited number of free copies.
- No. 3 A causal analysis of attitudes toward leadership training in a classroom setting. J.E. Hunter, R.F. Hunter & J.E. Lopis. 1978. \$2.00

- * No. 4 The teacher as colleague in classroom research. S. Florio & M. Walsh. 1978.
- No. 5 Form and function in mother-toddler conversational turn-taking. M.L. Donahue. 1978. \$1.75
- No. 6 Individual school buildings do account for differences in measured pupil performance. L.W. Lezotte & J. Passalacqua. 1978. \$1.25
- No. 7 Research on teaching: A dynamic area of inquiry. J.E. Lanier. 1978. \$1.25
- No. 8 Test design: A view from practice. L.S. Shulman. 1978. \$1.75
- No. 9 Relationships between testing and curriculum. A.C. Porter. 1978. \$1.00
- No. 10 Psychology and mathematics education revisited: 1976. L.S. Shulman. 1978. \$1.75
- No. 11 Science and mathematics education: Retrospect and prospect. L.S. Shulman & P. Tamir. 1978. \$2.00
- No. 12 Relating theory to practice in educational research: A working paper. L.S. Shulman. 1978. \$1.75
- No. 13 Classroom discipline: Toward a diagnostic model integrating teachers' thoughts and actions. D. Gil & P.S. Heller. 1978. \$1.00
- No. 14 Attention and modality effects in STM: A second look. T. Evans & J. Byers. 1978. \$1.75
- * No. 15 Mere ethnography: Some problems in its use in educational practice. F. Erickson. 1979. \$2.00
- * No. 16 On standards of descriptive validity in studies of classroom activity. F. Erickson. \$2.00
- * No. 17 Changes in school characteristics coincident with changes in student achievement. W.B. Brookover, & L.W. Lezotte. 1979. \$5.00
(Executive Summary \$1.00)

Conference Series

- No. 1 Current directions in research on teaching: A meeting of the Invisible College of Researchers on Teaching, November 17-19, 1976. 1977. \$4.25
- No. 2 Report of a seminar on field research methods in education. P.A. Cusick. 1978. \$1.50
- No. 3 Proceedings of the Research-on-Teaching Mathematics Conference, May 1-4, 1977. 1978. \$8.25

- No. 4 Teachers attaining new roles in research: A challenge for the education community. L.D. Shalaway, J.E. Lanier et al. 1978. \$3.50

* In production and will be available by May 1979. Please write for exact price and publication date.